

Official Journal of
THE
ILLUMINATING
ENGINEERING
SOCIETY
FOUNDED IN LONDON
1909
INCORPORATED 1930

The ILLUMINATING ENGINEER

THE JOURNAL OF GOOD LIGHTING

Edited by

J. STEWART DOW

Official Journal of
THE
ASSOCIATION of
PUBLIC LIGHTING
ENGINEERS
FOUNDED 1923
INCORPORATED 1928

EDITORIAL AND PUBLISHING OFFICES

32 VICTORIA STREET, LONDON, S.W.1

Tel. No. Victoria 5215

AUTHORS' INDEX

A

	PAGE
ACKERLEY, R. O., on Lighting in Shops & Stores ...	116
Floodlighting Equipment ...	413
ALLPRESS, H. S., on Road Surface Reflection Characteristics ...	350
Street Lighting Fittings ...	361
ALLSOPP, C. E., on Lighting Department Practice and Equipment ...	373
ARCHER, H. W., on The Illuminating Engineering Society (Toast) ...	92

B

BARNICOT, J. M., on An Analytical Basis for a Lighting Code ...	14
BARRETT, A., Portable Lamps ...	89
BARTON, P. S., on Portable Lamps ...	89
BELL, A. M., on Road Surface Reflection Characteristics ...	350
BENNETT, T. P., on Electric Light in Architecture ...	190
BEUTTELL, A. W., on An Analytical Basis for a Lighting Code ...	5, 15
Photo-Electric Discharge Lamps ...	155
Remarks at the Meeting in Liverpool ...	388
BRIGHT, H., on Hospital Lighting Fittings ...	412
BUCKLEY, H., on The Photometry of Electric Discharge Lamps ...	118, 148, 156
BURMAN, J. H., on Electric Light in Architecture ...	190

C

CAWTHORNE, T. S., on Photo-Electric Photometers ...	413
CHEVALIER, H., on Electric Light in Architecture ...	191
Garden Illumination ...	221
COLQUHOUN, J. F., on a Lighting-up Time Table ...	373
Lighting Dept. Practice and Equipment ...	373
CUNNINGTON, A., on An Analytical Basis for a Lighting Code ...	15
Portable Lamps and Their Applications ...	81, 90
CURRY, J. C., on Architectural Tubular Lamps ...	408

D

DAMANT, E. L., on Photo-Electric Discharge Lamps ...	154
Road Surface Reflection Characteristics ...	350
DAVIES, L. J., The Photometry of Electric Discharge Lamps ...	154

PAGE

Dow, J. S., on An Analytical Basis for a Lighting Code ...	14
Dock Lighting ...	45
Portable Lamps ...	89
Photometry of Electric Discharge Lamps ...	155
Electric Lighting in Architecture ...	191

E

ECK, JUSTUS, on Electric Lighting in Architecture...	191
Art and Practice of Garden Illumination ...	213-221
ENGLISH, Dr. S., on The Photometry of Electric Discharge Lamps ...	156
Electric Lighting in Architecture ...	190
New Form of Street Lighting Fittings ...	352-362

F

FORBES, A., on Presidential Address ...	284
Street Lighting Fittings ...	360
Street Lighting Department Practice ...	373
FRUHLING, H. G., on Objective Luxometers ...	198

H

HALBERTSMA, Dr. N. A., on Luminous Publicity ...	55
HAMPTON, Dr. W. M., on The Fixed Light Equivalent of Flashing Lights ...	46
HIBBEN, S. G., on Progress in Illuminating Engineering in the United States ...	265

J

JOHNS, W. H., on Garden Illumination ...	220
JONES, W. J., on An Analytical Basis for a Lighting Code ...	12
Road Surface Reflection Characteristics ...	350

K

KEMP, J., on Street Lighting ...	361
----------------------------------	-----

L

LANGLANDS, S. B., on Public Lighting Developments in Glasgow ...	241
Illumination, Past and Present ...	386
LENNOX, E. C., on A Lighting-up Time Table ...	373
LIBERTY, W. J., on Lighting Department Practice and Equipment ...	373

612419

	PAGE
LONG, H. H., on An Analytical Basis for a Lighting Code	13
Portable Lamps	88
Lighting Fittings	410

M

MAITLAND, WALDO, on Electric Lighting in Architecture	190
MANN, J., on Lighting Department Practice and Equipment	293-373
MARSH, R. G., on Improved Gas Lighting in Birmingham	417
MASTERMANN, C. A., on An Analytical Basis for a Lighting Code	12
MATTHEWS, BORLASE, on Garden Illumination	220
MCDERMOTT, L. H., on Photo-Electric Photometry	245
MCGREGOR-MORRIS, Prof. J. T., on The Photometry of Electric Discharge Lamps	153
MIDGELEY, H., on Dock Lighting	45
MILNE, C. S., on Portable Lamps	88
MINCHIN, L. T., on An Analytical Basis for a Lighting Code	15
Glare and Visibility in Street Lighting	54
Road Surface Reflection Characteristics	351

O

OAKLEY, P. D., on The Photometry of Electric Discharge Lamps	153
---	-----

P

PALMER, E. H., on Estimating the Red Light in Electric Discharge Lamps	123
Colour-Filters for Tests of Electric Discharge Lamps	223
PATERSON, Mrs. C. C., on Garden Illumination	220
PATERSON, C. C., on The Photometry of Electric Discharge Lamps	152
Garden Illumination	221
Road Surface Reflection Characteristics	350
Street Lighting Fittings	362
PAULUS, A., on Plastic Illuminating Material	2
PEIRCE, M. W., on An Analytical Basis for a Lighting Code	14
PRESTON, J. S., on The Lighting of Docks	39-45
The Photometry of Electric Discharge Lamps	153
Photo-Electric Photometry	245

R

RAPHAEL, F. C., on An Analytical Basis for a Lighting Code	14
RAYNER, E. H., on The Photometry of Electric Discharge Lamps	154
RITCHIE, T. E., on An Analytical Basis for a Lighting Code	14
ROBERTSON, HOWARD, on Electric Lighting in Architecture	191
ROGERS, R. E., Dock Lighting	45
Lighting Department Practice and Equipment	373
on Novel Lanterns in Liverpool	362
ROSEVEARE, L., on Road Surface Reflection Characteristics	350
RUFF, H. R., on Electric Discharge Lamps	70

S

SANDEMAN, D. G., on The Photometry of, Electric Discharge Lamps	140-160
SELLARS, J., on Dock Lighting	45
Lighting Department Practice and Equipment	373

SLOBOD, A. A., on The Application of the Dewey Decimal System to Illuminating Engineering	398
--	-----

SMITH, F. C., on Road Surface Reflection Characteristics	350
Street Lighting Fittings	362
Lighting Department Practice and Equipment	373

STEVENS, A. H., on Portable Lamps	88
--	----

STEWART, E. J., on A Lighting-up Time Table	372
--	-----

STILES, Dr. W. S., on The Penetrating Power of Coloured Headlights in Fog	313
--	-----

STROUD, E., on An Analytical Basis for a Lighting Code	14
---	----

Street Lighting Fittings	362
---------------------------------	-----

SULLY, C. W., on Dock Lighting	45
---------------------------------------	----

Artificial Lighting, A Vista of the Future	125
---	-----

The Illuminating Engineering Society	92
---	----

Remarks at the Birmingham Meeting	388
--	-----

SUTHERLAND, R. O., on Electric Lighting in Architecture	184-191
--	---------

Garden Illumination	221
----------------------------	-----

Architectural Lighting	406
-------------------------------	-----

T

TANDY, R., on Portable Lamps	89
-------------------------------------	----

TAPLIN, H., on Dock Lighting	45
-------------------------------------	----

TERRELL, THOS., on Portable Lamps	89
--	----

THOMPSON, H. HEPWORTH, on Presidential Address... ..	333
--	-----

TURNBULL, A. P., on Illuminating Engineering in Australia	242
--	-----

W

WADEY, W., on Illuminating Engineering in Australia	242
--	-----

WALDRAM, J. M., on Modern Developments in Street Lighting	51
--	----

Photometry of Electric Discharge Lamps	154
---	-----

Examination of Polish	163
------------------------------	-----

Road Surface Reflection Characteristics	305, 339, 350
--	---------------

A Portable Brightness Photometer	413
---	-----

WALSH, Dr. J. W. T., on An Analytical Basis for a Lighting Code	12
--	----

Photometry of Electric Discharge Lamps	155
---	-----

WARD, J. M., on Lighting Department Practice and Equipment	293-373
---	---------

WATSON BAKER, W. E., on Illuminants	52
--	----

WEBB, M. E., on The Illuminating Engineering Society	92
---	----

WHEAT, H. C., on An Analytical Basis for a Lighting Code	12
---	----

WILLOX, W. A., on Portable Lamps	88
---	----

WILSON, G. H., on An Analytical Basis for a Lighting Code	12
--	----

Street Lighting Fittings	361
---------------------------------	-----

A New Lighting - up Time Table	363-373
---------------------------------------	---------

WINCH, W. T., on The Photometry of Electric Discharge Lamps	152
--	-----

A Method of Estimating the Red Light emitted by a Source	123
---	-----

Colour Filters for Tests of Electric Discharge Lamps	223
---	-----

WOODSIDE, C. S., on Plastic Illuminating Material	2
--	---

WOODWARD, C. H., on Traffic Control Signals on A New Type of Lamp Standard	400 61
---	--------

SUBJECT INDEX

A

	PAGE
Aberdeen, Scenes at the A.P.L.E. Conference...	405
Acetylene Lamps	82
Accidents, 1933, Fatal Road	230
Architectural Lighting, Continental Examples of ...	55
Architecture, Light and Vision in	385
Architecture, Aesthetics of Electric Lighting in ...	184
Artificial Lighting: A Vista of the Future	125
Australia, Illuminating Engineering in	22, 242
Autophotic Cell as Applied to Photometers, The ...	416
Aviation Lighting, Progress in	394

B

Barking Power Station, The New	165
Battersea Power Station, The New	19
Birmingham, Improved Gas Lighting in	417
Birmingham Municipal Bank, The Lighting of the ...	208
Bisley, Dark Nights in	244
British Industries Fair, Lighting at the	132
Building Research	49

C

Ceiling Blackening, Loss of Light by	109
Cinema Industry, Lighting in the	32
Coiled-Coil Filament Lamp, The New	206
Colour Filters for Tests of Electric Discharge Lamps	223
Contracts Closed 33, 68, 106, 139, 169, 205, 235, 262,	280
Contrast Effect on Visibility	35

Correspondence:

The Photometry of Gaseous Discharge Lamps	140
Covent Garden Opera House, New Stage Lighting at	200

D

Daylight, Exclusion of, from Buildings	127
Decorative Lighting, at the World's Fair	270
Directory of Lighting Equipment 28, 60, 100, 136, 168,	
204, 234, 258, 278, 318, 382, 418	
Docks, Lighting of	39
Dock Lighting at Singapore	274
Doctors and the Use of Light	256

E

Editorial Notes 1, 35, 69, 111, 141, 175, 209, 237, 263, 281,	
329, 385	
Electric Discharge Lamps, Photometric Testing of	
118, 123, 140, 148, 160, 223	
Electric Discharge Lamp, A New Colour corrected	
Type of	102
Electric Discharge Lamps, Applications of	30, 73
Electric Discharge Lamps, Testing the Percentage	
of Red Light Emitted by	123
Electric Lamps, Progress in	390, 400
Electric Lighting in Architecture, Aesthetics of ...	184
E.L.M.A. Activities	101
E.L.M.A. 29th Design Course	162
Enfield, New Street Lighting at	73

F

Factory Lighting, Why no Statutory Requirements	
for?	209
Factory Lighting, Intensive General	239
Flashing Lights, Fixed Light Equivalent of	46
Floodlighting the Garden	98, 213
Floodlighting for Night Work	201
Fog, The Penetrating Power of White and Coloured	
Headlights in	313

G

Garden Illumination, Art and Practice of	213
Gardens, Floodlighting of	98
Gas Floodlighting	135, 244

PAGE

Gas Lamps, Progress in	375, 390, 413
Gas Lighting in a Foundry	106
Gas Lighting in Birmingham, Improved	417
Gaseous Discharge Lamps, Photometry of	
118, 140, 148, 160	
Glare, Avoidance of in Factories	177
Glare and Visibility in Street Lighting	35, 54
Glasgow, Public Lighting of	241
Glyn Mills Bank, The Lighting of	195

H

Heterochromatic Photometry	118, 148
Home Lighting	230
Hospital Lighting Fittings	412
Hove, Public Lighting in	276

I

Illuminants	52
Illuminated House Numbers	256
Illuminating Engineering Society of Australia, The	22
Illuminating Engineering in Australia... ..	242

Illuminating Engineering Society:—

(Founded in London, 1909: Incorporated 1930).

ACCOUNTS OF MEETINGS, 3, 37, 79, 117, 147, 179,	
331, 387	
AN ANALYTICAL BASIS FOR A LIGHTING CODE ...	5
DOCK LIGHTING	39
ELECTION OF OFFICERS AND COUNCIL	80
ANNUAL DINNER	91
BUREAU OF INFORMATION	95
RECOMMENDATIONS TO AUTHORS OF PAPERS ...	95
HETEROCHROMATIC PHOTOMETRY	118, 148
SPECIAL MEETING IN MANCHESTER	124, 159
ANNUAL MEETING	179
REPORT OF THE COUNCIL	180
AESTHETICS OF ELECTRIC LIGHTING IN ARCHI-	
TECTURE	184
THE ART AND PRACTICE OF GARDEN ILLUMINATION	213
SILVER JUBILEE COMMEMORATION	222
RECENT PROGRESS IN ILLUMINATING ENGINEERING	
IN THE UNITED STATES	265
PROGRAMME FOR 1934-35	282
PROGRESS IN ILLUMINATION	390, 406
PRESIDENTIAL ADDRESS	333
Illuminating Engineering in the United States,	
Recent Progress in	265
Illumination, A Milestone in	228
Illumination, How to Secure Sufficient... ..	113
Illumination, Progress in	159, 390, 406

Industrial Lighting:—

What Constitutes Good Industrial Lighting...	71
How to Secure Sufficient Illumination... ..	113
When Local Lighting should be Used	143
How to Avoid Glare	177
How to Avoid Troublesome Shadows... ..	211
Intensive General Lighting in a Modern Fac-	
tory	239
Industrial Lighting, Progress in	392

K

Keep Upkeep Down!	74
King's Highway, The Lighting of the... ..	237

L

Lamp Standard, A New Type of... ..	61
Leicester, Public Lighting in	142
Light Ahead!	329
Light, How much do We Need?	1
Light and Safety on the Roads	141
Light Should Enable Us to See	35

	PAGE
Light Throughout the Ages	58
Lighting Code, An Analytical Basis for a	5
Lighting Department Practice and Equipment	293
Lighting Exhibits at Aberdeen	374
Lighting-up Time Table based on Illumination Re- quirements	363
Lighting Industry, Organisation of the	126
Lighting Industry, A National Council for the	128
Lighting Literature 16, 48, 93, 129, 161, 192, 225, 251, 271, 314, 335, 396	
Liverpool, Novel Lanterns in	362
Liverpool, Illuminating Engineering Society's Meet- ing in	388
Local Lighting, When to use	143
Luminous Publicity: Effect on Cities at Night... ..	55
Luminous Sign Controversy, The	111
Luxometers, Objective	198

M

Maintenance, The Importance of	74, 293
Manchester, Special Illuminating Engineering Society's Meeting in	124, 159
Milestone in Illumination, A	228
Municipal Bank, Birmingham, Lighting of... ..	208

N

National Illumination Committee, Chairman's Report	158
National Physical Laboratory (Papers read)	61
National Physical Laboratory, Annual Report	193
Notes and News on Illumination 2, 36, 70, 112, 142, 176, 210, 238, 264, 282, 330, 386	

O

Obituary:—

A. W. Blake	251
Prof. W. C. Clinton	280
Isaac H. Massey	415
R. Taylor	106
Office Lighting, Modern	76, 145, 195
Oil Lamps	83

P

Patents 18, 50, 96, 131, 194, 227, 254, 273, 316, 338, 399	
Photo-Electric Photometry and its Limitations	245
Photometry, Progress in	395
Photoelectric Photometers	198, 396, 413, 416
Photometry of Electric Discharge Lamps 118, 123, 140, 148, 160, 223	
Physical Society—24th Annual Exhibition	58
Polish, Examination of	163
Portable Lamps and Their Applications	81
Public Gardens, Lighting of	256
Public Lamp Pillars, Removal of Paint from	301

Public Lighting Engineers, Association of:

ELEVENTH ANNUAL MEETING AND CONFERENCE	222, 283, 304
PRESIDENTIAL ADDRESS	284
LIGHTING DEPARTMENT PRACTICE AND EQUIPMENT	293
EXHIBITION OF PUBLIC LAMPS AND EQUIPMENT	304
ROAD SURFACE REFLECTION CHARACTERISTICS	305, 339
A NEW LIGHTING-UP TIME TABLE BASED ON ILLUMINATION REQUIREMENTS	363
NEW FORMS OF STREET LIGHTING FITTINGS	352
TRAFFIC CONTROL SIGNALS	400
Public Lighting in Glasgow	241
Public Lighting in Hove	276

Public Lighting, Need for Improvement in	128
Public Lighting, Progress in	395
Public Works, Roads and Transport Congress, Awards for Papers	253

R

Rainfall, Influence on Maintenance of Public Lamps	299
Reviews of Books and Publications Received:	
Neon Tube Practice	328
The Power Factor Booklet	328
Automatic Street Signalling	328
Load Building with Light	328
Rhenium, A Rare Metal	115
Road Surface Reflection Characteristics	305, 339

S

Shadows, Avoidance of	211
Share Your Knowledge!	175
Shops, A Non-Reflecting Window for	24
Shops and Stores, Lighting of	116
Speed Limits, Street Lighting and	142
Stage Lighting Equipment at Covent Garden	200
Street Lighting Control	274
Street Lighting with Electric Discharge Lamps	30
Street Lighting at Enfield	73
Street Lighting, Modern Developments in	51
Street Lighting, Glare and Visibility in	35, 54
Summer Lighting	263

T

Towards the Light	69
Tower Bridge, Lighting of	53
Trade Notes 33, 63, 104, 138, 170, 202, 232, 236, 260, 262	
Traffic Control Signals, Some Notes on... ..	400
Trawling by Floodlight	261
Twenty-four Hours Working Day, The	201

U

Unilever House, Lighting of	145
U.S.A. Illuminating Engineering in	265

W

Windows, Non-Reflecting Types of	24
---	----

Y

York Civic Week, Floodlighting during	244
--	-----

BACK NUMBERS AND BINDING CASES

Complete sets of twelve copies for any year from 1928 onwards are available at the following rates:—

Complete set of 12, unbound with Index	12/6	1928-1930
Complete set of 12, unbound with Index	10/6	1931-1934
Special Binding Cases	each 4/0	1928 to 1934

SINGLE BACK NUMBERS, when still in print, are available at a uniform price of 1/- each, on request.

Applications should be addressed to—

**THE ILLUMINATING ENGINEERING
PUBLISHING COMPANY LTD.,**
32, VICTORIA STREET, LONDON, S.W.1.

0
3
2
0
1
1

5
5

4

4

=

y
at

le